

Work Order ID 144083

April 01, 2016 11:04:04 AM

144083

Page 1

Item ID: D3195-043 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bracket
 Start Date: 4/20/2016 Start Qty: 15.00 ***15*** Cust Item ID:
 Required Date: 4/29/2016 Req'd Qty: 15.00 ***15*** Customer:
 Reference:

Approvals: Process Plan: SLA Date: 20160401 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3195	Rev B								

100 0.00
100 BAND SAW
 Bandsaw Memo 0.00
 Jeaspa Bandsaw Cut blanks: (1.250" x 1.500") x 3.60" long
 15 0 44 16/04/05

110 0.03
110 HAAS CNC VERTICAL MACHINING #1
 HAAS 1 Memo 0.04
 HAAS CNC vertical machine #1 1-Machine D3195-3 as per Folio FA334 and Dwg D3195-32-Deburr
 15 0 16 04 08

120 0.00
120 QC2- Inspect parts off machine FAI/FAIB
 QC Memo 0.00
 Quality Control
 15 0 16 04 08

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 144083

April 01, 2016 11:04:04 AM

144083

Page 2

Item ID: D3195-043 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bracket
 Start Date: 4/20/2016 Start Qty: 15.00 ***15*** Cust Item ID:
 Required Date: 4/29/2016 Req'd Qty: 15.00 ***15*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.01		16/03/09		15	0		DAS 08 9-89
140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.02				15	0		16/04/11
150 *150* Powdercoat Powder Coating	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3 m 130746 Memo START TIME: 1:30 3:20 FINISH TIME: 2:00	0.00 0.00				15	0	16-04-20	DAS 34 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for-Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	OTHER : _____							
Misidentified	☐	Past Due								

Work Order ID 144083***144083***

Page 4

Item ID: D3195-043

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Bracket

Start Date: 4/20/2016 Start Qty: 15.00

15

Cust Item ID:

Required Date: 4/29/2016 Req'd Qty: 15.00

15

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

Identify as per dwg & Stock Location: Sto21

0.00

190

Packaging

Memo

0.00

Packaging

15

APR 26 2016

DAS
0
2-89

200

QC21- Final Inspection - Work Order Release

0.00

200

QC

Memo

0.03

Quality Control

MCS

APR 26 2016

MCS APR 26 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
				Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
				Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
				Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
				Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
				Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
				Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
				Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
				OTHER : ☐			

Picklist Print

April 01, 2016 11:04:11 AM

Page 1

Work Order ID: 144083

144083

Parent Item: D3195-043

D3195-043

Parent Item Name: Bracket

Start Date: 4/20/2016

Required Date: 4/29/2016

Start Qty: 15.00

Required Qty: 15.00

Comments: IPP Rev:A New Issue 05-11-08 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3195-7		Manufactured	No			100	Each	4.0000	1	15			DAS 36 9-89
D3195-7									**			16/04/25	
Pad													

Location	Loc Qty	Loc Code
----------	---------	----------

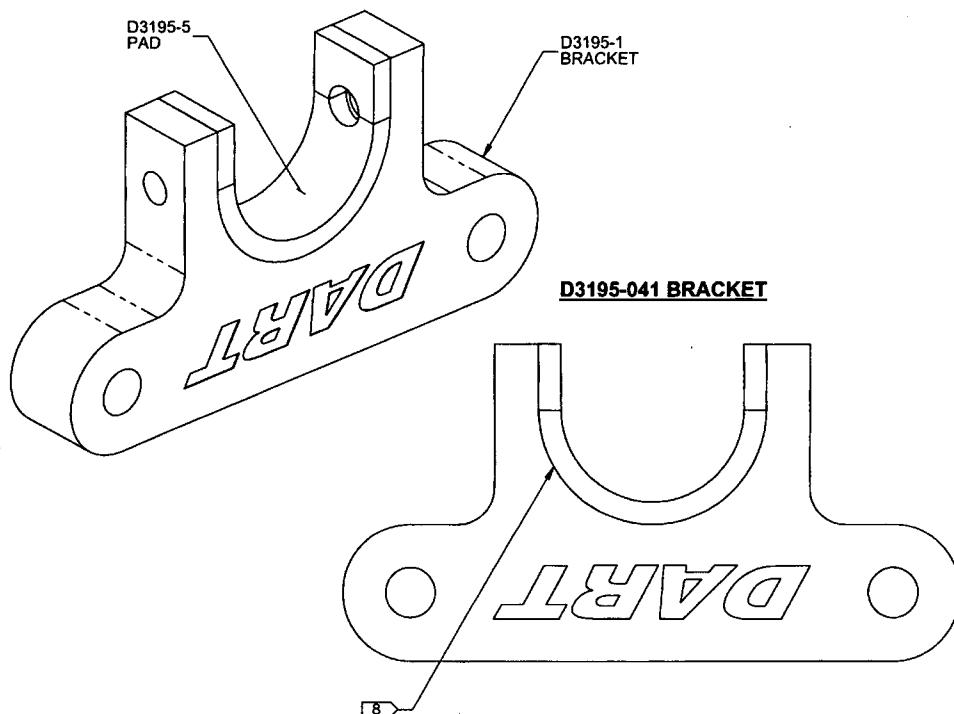
GA	4	
135732	4	

M6061T6B1.500X01.25 0		Purchased	No			170	f	24.0000	0.3	4.736842			DAS 44 9-89
M6061T6B1 500X01 250									**			16/04/05	
6061-T6 Bar 1.50 x 1.25													

Location	Loc Qty	Loc Code
----------	---------	----------

MAT003	24	
m134158	24	

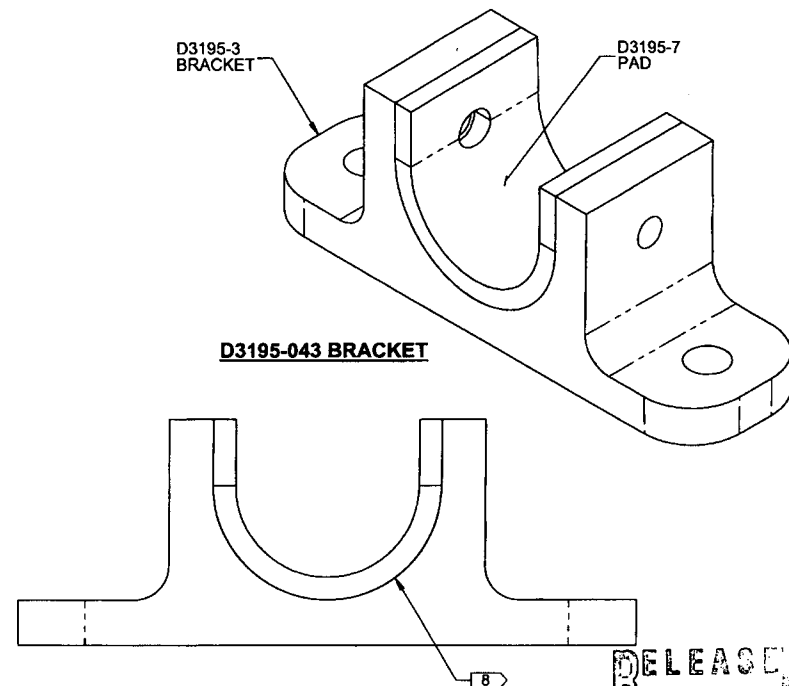
4.5831



ITEM	QTY -041	P/N	DESCRIPTION
	X	D3195-041	BRACKET
1	1	D3195-1	BRACKET
2	1	D3195-5	PAD

NOTES:

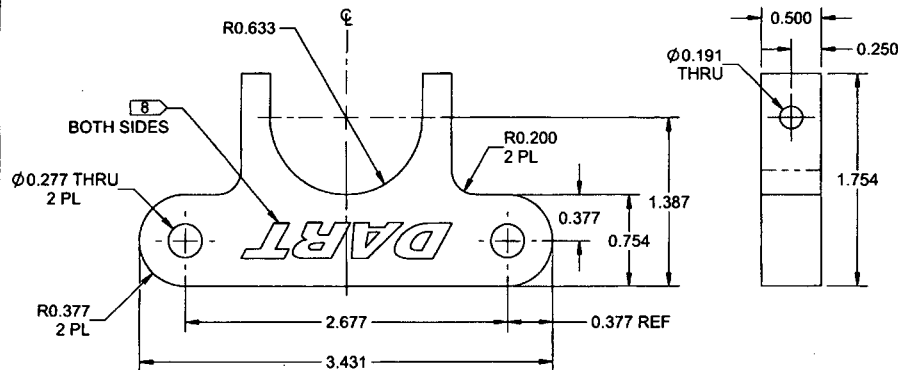
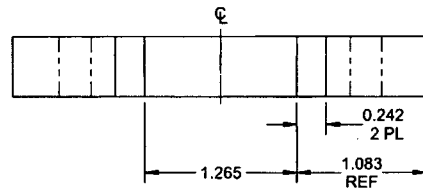
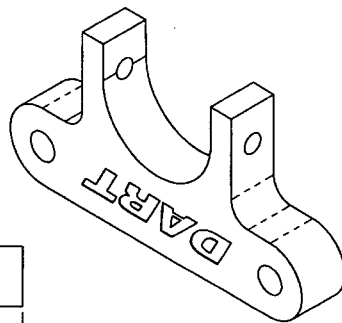
- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3195-04X" AND BATCH NUMBER "BXXXXX" PER QSI044 METHOD 6.1
- 7) WEIGHT: D3195-041: 0.15 lbs
D3195-043: 0.14 lbs
- 8) BOND PAD TO BRACKET USING 3M SCOTCH-WELD HIGH PERFORMANCE 1300/1300L (OR EQUIVALENT)



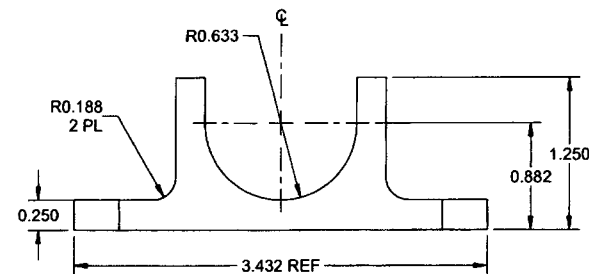
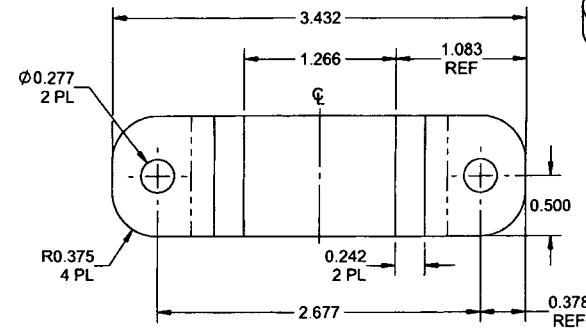
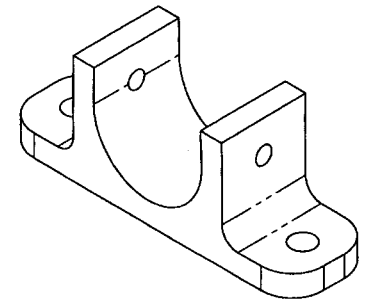
ITEM	QTY -043	P/N	DESCRIPTION
	X	D3195-043	BRACKET
1	1	D3195-3	BRACKET
2	1	D3195-7	PAD

B	- UPDATED DRAWING FORMAT. - ADDED NOTE 8, SHEET 1. - D3195-5 & D3195-7 DIMENSIONS EXTENSIVELY REVISED (88-3, C3-3) - REF: PAR11-130		RP	12.04.13
A	NEW ISSUE		CP	03.06.23
REV.	DESCRIPTION		BY	DATE
DESIGN	RP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
DRAWN	RP			
CHECKED	A.P.	DRAWING NO.	REV. B	
MFG. APPR.	E.P.	D3195	SHEET 1 OF 3	
APPROVED	W.P.	TITLE	SCALE	
DE APPR.	W.P.	BRACKET	NTS	
DATE	12.04.13			
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20160401
SA 144083



D3195-1 BRACKET

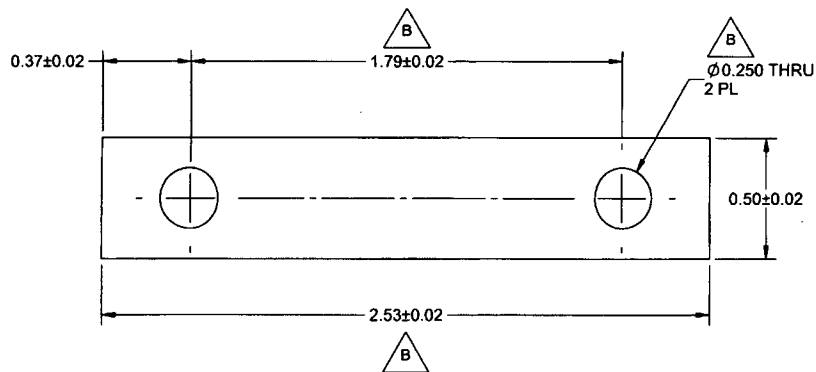


D3195-3 BRACKET

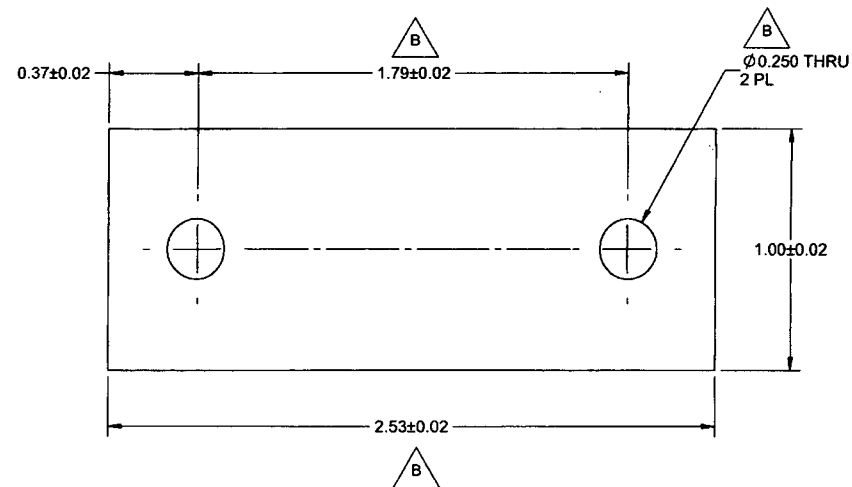
NOTES:

- 1) MATERIAL: 6061-T6/T651 PER QQ-A-200/8 OR QQ-A-225/8 OR ASTM B211 OR ASTM B221
REF. DART SPEC. M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GREY SANDEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D3195-1 0.15 lbs
D3195-3 0.14 lbs
- 8) ENGRAVE DART LOGO AS SHOWN USING 0.28 HIGH X 0.005 DEEP LETTERING (TYPICAL BOTH SIDES)

DESIGN	RP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	A.P.	DRAWING NO.	REV. B
MFG. APPR.		D3195	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		BRACKET	NTS
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D3195-5 PAD



D3195-7 PAD

NOTES:

- 1) MATERIAL: BLACK NEOPRENE SHEET, 1/8" THICK, 60 DUROMETER (REF DART SPEC M-NEO60-S.125)
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: LESS THAN 0.01 lbs

DESIGN	RP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	<i>AP</i>	DRAWING NO. D3195	REV. B
MFG. APPR.	<i>CE</i>	SHEET 3 OF 3	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	BRACKET	NTS
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RELEASED
2012-04-30

DART AEROSPACE LTD		Work Order:	144083
Description: Bracket		Part Number:	D3195-3
Inspection Dwg: D3195 Rev: B		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
3.432	+/-0.010	3.433	✓		Vern	
1.265	+/-0.010	1.265	✓		↓	
R0.37	+/-0.030	.375	✓		↓	
Ø0.277	+0.005/-0.001	.277	✓		G.P.	
2.677	+/-0.005	2.677	✓		Vern	
0.242	+/-0.010	.243	✓		↓	
0.377	+/-0.010	.378	✓		↓	
0.500	+/-0.010	.500	✓		↓	
R0.188	+/-0.010	.188	✓		R.G.	
0.250	+/-0.010	.246	✓		Vern	
0.882	+/-0.010	.879	✓		↓	
1.250	+/-0.010	1.248	✓		↓	
0.500	+/-0.010	.500	✓		↓	
Ø0.191	+0.005/-0.001	.193	✓		G.P.	
1.000	+/-0.010	1.000	✓		Vern	

Measured by:	P. 16 04 07	Audited by:	A. A.	DAS	Preliminary Approval:	
Date:		Date:	16/04/09	9-89	Date:	

Rev	Date	Change	Revised by	Approved
A	04.04.20	New Issue (P/O D412-702-011/-013)	KJ/RF	
B	05.04.26	R0.37 was R0.037; 1.084 removed	KJ/JLM	
C	12.05.14	Dwg Rev updated	KJ	